INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

December 11, 2003

TO: Interested Parties / Applicant

RE: Packaging Corporation of America / 083-18215-00040

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FN-REGIS.dot 9/16/03

December 11, 2003

Mr. William Stone
Packaging Corporation of America
408 East Clair Street
Vincennes, IN 47951

Re: Re-Registration No.:
083-18215-00040

Dear Mr. Stone:

The application from Packaging Corporation of America, received on October 9, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following emission units, to be located at 408 East Clair Street, Vincennes, Indiana, are classified as registered:

(a) Two (2) natural gas fired boilers, designated as BL1 and BL2, with at input capacity of 13.2 mmBtu/hr each and exhausts to a stack designated as 001.

(b) One (1) starch storage silo, with a maximum storage capacity of 110,000 pounds, equipped with a bin vent filtration system to aid in the reduction of starch lost from the pneumatic loading process, and exhausts to a stack designated as 003.

(c) Five (5) flexographic printing presses, with a total maximum ink usage rate of 17.11 pounds per hour, a total maximum corrugated sheet rate of 18,000 pounds per hour, exhausts through the general ventilation system designated as 002 and maintains the following:

1. One (1) flexographic press, designated as 283, with a maximum line speed of 990 ft/min and a maximum printing width of 122 inches.
2. One (1) flexographic press, designated as 262, with a maximum line speed of 1050 ft/min and a maximum printing width of 96 inches.
3. One (1) flexographic press, designated as 314, with a maximum line speed of 700 ft/min and a maximum printing width of 80 inches.
4. One (1) flexographic press, designated as 310, with a maximum line speed of 640 ft/min and a maximum printing width of 78 inches.
5. One (1) flexographic press, designated as 330, with a maximum line speed of 550 ft/min and a maximum printing width of 146 inches.

(d) One (1) adhesive/glue application area, with a maximum adhesive/glue usage rate of 18.3 pounds per hour, a maximum printed corrugated sheet rate of 17,100 pounds per hour and exhausts through the general ventilation system designated as 002.

(e) One (1) wax application area, with a maximum wax usage rate of 20,000 gallons per year, a maximum corrugated sheet rate of 1,800 pounds per hour and exhausts through the general ventilation system designated as 002.

(f) One (1) scrap collection system, with a maximum paper rate of 2,400 pounds per hour, exhausts to a stack designated as 004 and consists of the following:

1. One (1) paper separation cyclone, which collects the scrap and conveys the paper to the baler, an air flow rate of 60,000 cfm and an overall efficiency of 99.9%; and

2. One (1) baler.

(g) One (1) flexographic printing press, designated as 320, with a maximum line speed of 833 ft/min and a maximum printing width of 106 inches.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating Constructed After September 21, 1983), the particulate matter emissions from each of the two (2) natural gas fired boilers rated at 13.2 mmBtu/hr each, shall be limited to 0.56 lb/mmBtu.

(3) Pursuant to 326 IAC 6-3-2 (Process Operations) and 40 CFR 52 Subpart P

(a) The particulate matter (PM) from the starch silo loading/unloading area and the scrap collection system shall be limited to 1.39 lb/hr and 4.63 lb/hr, respectively, according to the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

(b) The cyclone shall be operated according to manufacturer's specifications at all times when the scrap paper circulation system (including the baler) is in operation.

(c) The filters used to prevent starch product loss, shall be in operation at all times when the silo is being loaded and unloaded.

(d) An inspection shall be performed each calendar quarter of all the filters. Defective filters shall be replaced. A record shall be kept of the results of the inspection and the number of filters replaced.

(e) In the event that a filter's failure has been observed:

(1) The affected compartments will be shut down immediately until the failed units have been replaced.

(2) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

(3) That visible emission notations of all exhaust to the atmosphere from the cyclone and filters shall be performed once per working shift. A trained employee will record whether emissions are normal or abnormal.

(4) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80% of the time, the process is in operation, not counting start up or shut down time.

(5) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.

(6) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.

(7) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal and abnormal visible emissions for that specific process.

(8) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

This registration is a re- registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,
Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch

Office of Air Quality

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cc: File - Knox County
Knox County Health Department
Air Compliance – Scott Anslinger
Southwest Regional Office
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name: Packaging Corporation of America
Address: 408 East Clair Street
City: Vincennes, Indiana 47591
Authorized individual:
Phone #:
Registration #:

I hereby certify that **Packaging Corporation of America** is still in operation and is in compliance with the requirements of Registration **No.: 083-18215-00040.**

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Re-Registration

Source Background and Description

Source Name:	**Packaging Corporation of America**
Source Location:	**408 E. Clair Street, Vincennes, Indiana 47591**
County:	**Knox**
SIC Code:	**2653**
Re-Registration No.:	**083-18215-00040**
Permit Reviewer:	**Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed an application from Packaging Corporation of America relating to the construction of a new flexographic printing press and the operation of a corrugated box manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) Two (2) natural gas fired boilers, designated as BL1 and BL2, with a maximum heat input capacity of 13.2 mmBtu/hr each and exhausts to a stack designated as 001.

(b) One (1) starch storage silo, with a maximum storage capacity of 110,000 pounds, equipped with a bin vent filtration system to aid in the reduction of starch lost from the pneumatic loading process, and exhausts to a stack designated as 003.

(c) Five (5) flexographic printing presses, with a total maximum ink usage rate of 17.11 pounds per hour, a total maximum corrugated sheet rate of 18,000 pounds per hour, exhausts through the general ventilation system designated as 002 and maintains the following:

1. One (1) flexographic press, designated as 283, with a maximum line speed of 990 ft/min and a maximum printing width of 122 inches.
2. One (1) flexographic press, designated as 262, with a maximum line speed of 1050 ft/min and a maximum printing width of 96 inches.
3. One (1) flexographic press, designated as 314, with a maximum line speed of 700 ft/min and a maximum printing width of 80 inches.
4. One (1) flexographic press, designated as 310, with a maximum line speed of 640 ft/min and a maximum printing width of 78 inches.
5. One (1) flexographic press, designated as 330, with a maximum line speed of 550 ft/min and a maximum printing width of 146 inches.

(d) One (1) adhesive/glue application area, with a maximum adhesive/glue usage rate of 18.3 pounds per hour, a maximum printed corrugated sheet rate of 17,100 pounds per hour and exhausts through the general ventilation system designated as 002.

(e) One (1) wax application area, with a maximum wax usage rate of 20,000 gallons per year, a maximum corrugated sheet rate of 1,800 pounds per hour and exhausts through the general ventilation system designated as 002.

(f) One (1) scrap collection system, with a maximum paper rate of 2,400 pounds per hour, exhausts to a stack designated as 004 and consists of the following:

1. One (1) paper separation cyclone, which collects the scrap and conveys the paper to the baler, an air flow rate of 60,000 cfm and an overall efficiency of 99.9%; and

2. One (1) baler.

New Emission Units and Pollution Control Equipment

The source consists of the following new emission units and pollution control devices:

(g) One (1) flexographic printing press, designated as 320, with a maximum line speed of 833 ft/min and a maximum printing width of 106 inches.

Existing Approvals

The source has been operating under previous approvals including, but no limited to, the following:

(a) Re-Registration No.: 083-12749-00040, issued on January 4, 2001; and

(b) Registration, 083-9799-00040, issued on October 30, 1998.

Condition 5 of Re-Registration No. 083-12749-00040 has been removed from this approval. The reason for deletion of this condition is as follows:

Condition 5 in Re-Registration No. 083-12749-00040 was related to NESHAP (40 CFR 63, Subpart KK) – Standards for Printing and Publishing. According to 40 CFR 63.820(a)(1), this NESHAP is applicable only to major sources for HAP, and to sources that qualify as area sources as specified in 40 CFR 63.820 (a)(3). This source is not a major source for HAP, and also does not meet the definition of area source under 40 CFR 63.820(a)(3) which refers to synthetic minor sources. Therefore, NESHAP Subpart KK is not applicable to this source, and will be deleted from this current approval.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justifications such that the cyclone be considered as an integral part of the scrap collection system and the bin vent filter system be considered as an integral part of the pneumatic conveying of starch to the storage silo:

(a) The cyclone collects paper scrap throughout various points in the building. The air flow of the cyclone aids in the circulation of the scrap and conveys the scrap to the baler. The scrap cannot be conveyed to the baler without the cyclone.

(b) The bin vent filter system aids in reducing the amount of product lost when conveying the starch from the truck to the silo. Without this system, the amount of product lost would exceed 85% of the initial starch input.

IDEM, OAQ has evaluated the justifications and agreed that the cyclone will be considered as an integral part of the scrap collection system and the bin vent filter system shall be considered as an integral part of the pneumatic conveying of starch to the storage silo. Therefore, the permitting level will be determined using the potential to emit after the cyclone and bin vent filter system. Operating conditions will be specified in the proposed permit that this cyclone and bin vent filter system shall operate at all times when the scrap collection system and pneumatic conveying are in operation.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
001	boilers	35	2	2,850	650
002	general vent	--	--	--	--
003	silo	65	8	300	70
004	scrap collection	60	12	60,000	70

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on October 9, 2003.

Emission Calculations

See Appendix A page 1 and 2 of this document for detailed emissions calculations related to Natural Gas Combustion.

Additionally, the calculations submitted by the applicant for the new flexographic printer has been verified and found to be accurate and correct.

The emissions from the existing non-combustion emission units are based on Technical Support Document for Re-Registration No. 083-12749-00040.

Activity	PM	PM-10	SO2	VOC	CO	NOx	Glycol Ether	Methanol	Formald
Cyclone	10.5	10.5	-	-	-	-	-	-	-
Starch Silo	0.22	-	-	-	-	-	-	-	-
Glue Application	-	-	-	0.51	-	-	-	-	-
Ink Application [1]	-	-	-	4.14	-	-	0.9	-	-
Wax Application	-	-	-	0.33	-	-	0.28	0.001	0.004

[1] Includes emissions from new printer no. 320

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	10.92
PM-10	11.4
SO_2	0.1

VOC	5.6
CO	9.7
NO_x	11.6

HAP's	Potential To Emit (tons/year)
Single HAP	< 10
TOTAL	< 20

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

County Attainment Status

The source is located in Knox County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Knox County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(b) Knox County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from the new printing press, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

(a) 40 CFR Part 60 Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) is applicable to the two (2) natural gas fired boilers because the individual heat input capacity is greater than 10 mmBtu/hr, yet less than 100 mmBtu/hr and both were constructed after June 9, 1989. There are no emission limitations for PM, SO_2 and NO_x established under this rule for natural gas boilers.

Pursuant to 40 CFR 60 Subpart Dc, 60.48c, the following reporting and record keeping is required:

(1) The owner/operator of each affected facility shall submit notification of the date of construction or reconstruction, postmarked no later than 30 days after such date, date of anticipated startup, postmarked not more than 60 days nor less than 30 days prior to such date, and date of actual startup, postmarked within 15 days after such date of actual startup.

(2) This notification shall include:

(A) The design heat input capacity of the affected facility and identification of fuels to be combusted;
(B) The annual capacity factor at which the owner/operator anticipates operating the affected facility based on the fuels fired;
(C) The owner/operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each month; and
(D) All records required under this section shall be maintained by the owner/operator of the affected facility for a period of two years following the date of such record.

(b) 40 CFR Part 60 Subpart QQ (Standards of Performance for the Graphic Arts Industry) does not apply to the printing presses because these are flexographic presses and not rotogravure presses.

(c) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), (40 CFR 63, Subpart KK), because this source is not a major source for HAP.

(d) This source is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), (40 CFR 63, Subpart OOOO) – Standards for Printing, Coating, Dyeing of Fabrics and Other Textiles, because this source is not a major source for HAP, and is not involved in the printing of fabrics.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Knox County and the potential to emit of all criteria pollutants are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this corrugated box manufacturing plant will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

State Rule Applicability – Individual Facilities

326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)

The two (2) natural gas fired boilers rated at 13.2 mmBtu/hr each, are subject 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating). Pursuant to 326 IAC 6-2-4, the particulate matter (PM) emissions for indirect heating facilities constructed after September 21, 1983 shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26}$$

Where:

Pt = Pounds of Particulate Matter emitted per million Btu (lb/mmBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

$Pt = 1.09/13.2^{0.26}$ = 0.56 lb/mmBtu (one boiler @ 13.2 mmBtu/hr)

Allowable PM emissions = (0.56 lb/MMBTU)*(13.2 MMBTU/hr)*(8760 hr/yr)*(1 ton/2000 lbs) = 32.2 tons/year/boiler. Total allowable PM emissions = 64.4 tons/yr.

326 IAC 6-3-2 (Process Operations) and 40 CFR 52 Subpart P

(a) The particulate matter (PM) from the starch silo loading/unloading area and the scrap collection system shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Storage Silo Allowable PM emissions = 4.10 * (397 lb/hr * ton/2000 lb)^0.67 = 1.39 lb/hr; 1.39 lb/hr * 8760 hr/yr * ton/2000 lb = 6.08 ton/yr.

Paper Scrap System Allowable PM emissions = 4.10 * (2400 lb/hr * ton/2000 lb)^0.67 = 4.63 lb/hr; 4.63 lb/hr * 8760 hr/yr * ton/2000 lb = 20.3 ton/yr.

The above mentioned facilities are in compliance with 326 IAC 6-3 because the potential PM emissions are less than the allowable emissions.

(b) The cyclone shall be operated according to manufacturer's specifications at all times when the scrap paper circulation system (including the baler) is in operation.

(c) The filters used to prevent starch product loss, shall be in operation at all times when the silo is being loaded and unloaded.

(d) An inspection shall be performed each calendar quarter of all the filters. Defective filters shall be replaced. A record shall be kept of the results of the inspection and the number of filters replaced.

(e) In the event that a filter's failure has been observed:

(1) The affected compartments will be shut down immediately until the failed units have been replaced.

(2) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

(f) The visible emission notations of all exhaust to the atmosphere from the cyclone and filters shall be performed once per working shift. A trained employee will record whether emissions are normal or abnormal.

(g) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80% of the time, the process is in operation, not counting start up or shut down time.

(h) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.

(i) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal and abnormal visible emissions for that specific process.

(j) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

326 IAC 8-5-5 (Miscellaneous Operations: Graphic Arts Operations)

This rule does not apply to the flexographic printers because the potential VOC emissions of each press is less than 25 tons per year.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements)

This rule does not apply to the emission units at this source because the VOC emissions are less than 25 tons per year.

Conclusion

The construction and operation of this corrugated box manufacturing plan shall be subject to the conditions of the Re-Registration No.: 083-18215-00040.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **Packaging Corporation of America**
Address City IN Zip: **408 East Clair Street, Vincennes, IN 47951**
Permit Number: **083-18215**
Plt ID: **083-00040**
Reviewer: **Madhurima D. Moulik**
Date: **22-Oct-03**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
26.4	231.3

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.2	0.9	0.1	11.6	0.6	9.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: Packaging Corporation of America
Address City IN Zip: 408 East Clair Street, Vincennes, IN 47951
Permit Number: 083-18215
Plt ID: 083-00040
Reviewer: Madhurima D. Moulik
Date: 22-Oct-03

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.428E-04	1.388E-04	8.672E-03	2.081E-01	3.931E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.782E-05	1.272E-04	1.619E-04	4.394E-05	2.428E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.